

**Notice of Allowability**

Application No.

10/646,635

Examiner

Gims S. Philippe

Applicant(s)

AKIMOTO ET AL.

Art Unit

2621

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>02/07/05</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                   | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other ____.   |

***Allowable Subject Matter***

1. After a further search and a thorough examination of the present application and in light of the prior art made of record, claims 1-13 are found to be in condition for allowance.

***Reasons for Allowance***

The following is an Examiner's statement of reasons for the indication of allowable subject matter:

The claims are allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose a method for temporal interpolation of video frames within a source video sequence comprising the steps of reading two adjacent video frames of the video source sequence, detecting and removing frame defects, broadening a video frame beyond its original border, whereby an interpolation of a new video frame is enabled, splitting the video frame into a plurality of blocks, determining a displacement vector for each block, providing a means of automatic adjustment of system parameters for a given source video sequence, providing a means for motion estimation between the video frames, providing a means of detection of scene change within the source video sequence, selecting among at least one type of interpolation means based on the motion estimation, interpolating and inserting at least one new video frame into the source video sequence, providing a means of evaluating the quality of a new video sequence following interpolation, and

reiterating the steps of motion estimation and detection of scene changes until satisfactory quality is achieved.

The closest prior art (Martins et al. US Patent no. 6438275)) discloses a similar method for temporal interpolation of video frames. However, Martins fails to particularly teach or suggest *“providing a means of automatic adjustment of system parameters for a given source video sequence, providing a means for motion estimation between the video frames, providing a means of detection of scene change within the source video sequence, selecting among at least one type of interpolation means based on the motion estimation, interpolating and inserting at least one new video frame into the source video sequence, providing a means of evaluating the quality of a new video sequence following interpolation, and reiterating the steps of motion estimation and detection of scene changes until satisfactory quality is achieved.”* as claimed.

### **Conclusion**


2. Any comments considered necessary by applicant must be submitted no later than the payment of issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled “Comments on Statement of Reasons for Allowance”.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

Art Unit: 2621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri S. Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Gims S Philippe  
Primary Examiner  
Art Unit 2621

GSP

November 8, 2006